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ABSTRACT

This report describes the activities of the Center for Agricultural and Rural Development (CARD), Iowa State University, for the year ending June 30, 1987. During this fiscal year, CARD conducted numerous projects including the following: (1) a policy evaluation on agricultural applications of pesticides and ground water quality for the Environmental Protection Agency; (2) development of models with multiple objective decision criteria to determine optimal soil conservation policies; (3) the Rural Conservation Act appraisal of soil and water resources; (4) comprehensive analyses of the Food Security Act of 1985; (5) evaluation of calcium promotion and advertising; (6) an assessment of the appropriateness of survey data for identifying populations at dietary risk; (7) 10-year international agricultural projections; (8) food consumption and price policy analysis for Haiti, Indonesia, Jamaica, and Zambia; and (9) the initiation of a system for improved positioning of rural development programs. Many of these projects incorporated advanced microcomputer technology and large scale, econometric policy evaluation models. CARD supported 40 graduate students in the economics program at Iowa State University. The report includes a list of contracts and grants projects, a breakdown of funding sources, the total CARD operating budget, and list of CARD activities, publications and presentations for the year. (SV)

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Annual Report 1987

Center for Agricultural and Rural Development

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CARD

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Contents

Letter from the Administrator 1
Introduction 3
- Research Highlights
- Graduate Program

Research Program 7
- Natural Resources and Conservation Policy
- Trade and Agricultural Policy
- Food Consumption and Nutrition Policy
- Rural and Economic Development Policy

Research Centers Affiliated with CARD 15
Contracts and Grants Projects 17
Sources of Support 18
Operating Budget 20
CARD staff 21
Publications and Presentations 22

Letter from the Administrator

CARD's staff increased from 52 to 72 in 1987. This expansion is consistent with our general plan to broaden the policy research base at CARD. We now have full compliments of staff in the research areas of natural resources and conservation policy, trade and agricultural policy, and food consumption and nutrition policy.

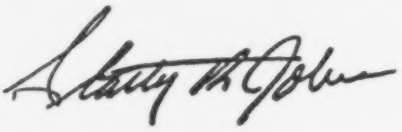
Stanley R. Johnson, Professor of Economics and Administrator of CARD.

During the coming year we will be adding to our policy research program in rural and economic development. Our organizational plan embraces the idea that effective policy analysis for agriculture and rural development must have a wider scope than in the past. This approach has been motivated by the increasing importance of international markets, a shrinking political base for agricultural and rural populations, greater integration of the food production and distribution systems, and the imperative to coordinate policy research on agriculture, rural development, and natural resource issues.

The CARD research philosophy continues to be one of blending applied policy analysis and graduate studies in a university context. Graduate students receive training in the design and application of policy modeling methods. Our work in theory and development of advanced quantitative and econometric methods is stimulated by problems raised in this policy analysis context.

CARD has affiliations with a number of other research institutions designed to capitalize on their specialized capabilities. The Food and Agricultural Policy Research Institute (FAPRI), organized jointly by Iowa State University and the University of Missouri, evaluates domestic and international implications of agricultural policies. The North American Center for the Food and Agricultural Program at the International Institute of Applied Systems Analysis, part of a network of research institutions, is evaluating food, trade, and resource policies in a general equilibrium context. CARD will provide leadership in the Midwest Agribusiness Trade Research and Information Center (MATRIC), funded by a Congressional research grant.

The total research budget for CARD this year was $1.7 million. Of this amount, $1.2 million was from grants and contracts. The remainder was appropriated through Iowa State University. This share of grants and contract funding in the CARD budget reflects our commitment to direct research on contemporary agricultural and rural development policy issues. It also provides a continuing market test for the value of the research results that are developed at CARD.



Stanley R. Johnson

Introduction

THE CENTER for Agricultural and Rural Development (CARD) has continued to expand its research capacity, implementing a broad-based policy research system consistent with the more complex issues for agriculture and rural communities domestically and internationally. CARD's thirty-year tradition is being carried on with research utilizing integrated modeling systems, advanced economic theory, and econometrics for quantitative analysis of contemporary policy issues.

During the past year CARD has conducted numerous studies including pesticide policy evaluation; the Rural Conservation Act appraisal of soil and water resources; comprehensive analyses of the Food Security Act of 1985; 10-year international agricultural projections; a comparison of alternative strategies for managing the Food Security Act of 1985; an evaluation of calcium promotion and the effectiveness of calcium advertising; an assessment of the appropriateness of survey data for identifying populations at dietary risk; food consumption and price policy analysis for Haiti, Indonesia, Jamaica, and Zambia; and the initiation of a system for improved positioning of rural development programs. These grant and contract supported projects contribute significantly to the CARD budget and provide an ongoing market test of the research program.

CARD has enhanced linkages with state and federal Congressional committees, agricultural commodity groups, and the private sector as well as with academic colleagues. These close associations, particularly to policy-making bodies and interest groups, are critical to understanding the policy framework, identifying issues, orienting the modeling and data base systems, and developing results that can be used effectively in policy formation and evaluation.

CARD continues to become more heavily involved in microcomputer technology. When incorporating microcomputer technology in the research process, care has been taken to coordinate the development of the systems with the ISU mainframe computer. Exploratory work is under way on data base management systems to automate and raise the efficiency of analyses using large-scale models and data systems. Specialized policy models and data systems are being developed for use with expert systems on microcomputers; and an array of technical advances are going forward in support of CARD research.

Affiliations have been established with Resources for the Future, Agriculture Canada, International Institute for Applied Systems Analysis, and other groups conducting policy research that is complimentary to that of CARD. These affiliations will promote a more effective dissemination and aid in sharpening the policy focus of CARD research. The ongoing cooperative research with

Stanley R. Johnson (third from left) participated in a discussion of proposals to revise the Food Security Act of 1985 at a congressional briefing in Washington, D.C., on February 20, 1987. Also pictured are (left to right) Barry Carr, Congressional Research Service, George E. Rossmiller, director of the National Center for Food and Agricultural Policy at Resources for the Future, and Rudolph G. Penner, former director of the Congressional Budget Office.
Photo courtesy RFF

more traditional clients: Economic Research Service, Soil Conservation Service, and Organization of International Cooperation and Development of the U.S. Department of Agriculture; Environmental Protection Agency; U.S. Aid for International Development; and state government contribute to an improved CARD research program.

CARD continues to attract significant research funding through outside grants, contracts, and cooperative agreements. The market test provided by this dependency insures that CARD research is consistent with the current policy interests of agriculture and rural development in Iowa, the nation, and the world. Grants and contracts totaling approximately $1.2 million were completed by CARD in 1986-87. This was combined with state funding of approximately $500,000 during the same period. (See figure on p. 18)

William H. Meyers, Professor of Economics and Associate Administrator of CARD.

Research Highlights

THE RESEARCH supported by the special Congressional grant to the Food and Agricultural Policy Research Institute (FAPRI), a CARD affiliate, maintains a high national profile. CARD, in collaboration with the FAPRI unit at the University of Missouri, produced and published its second comprehensive quantitative analysis of the Food Security Act of 1985 (FSA85) in December 1986. Results, including evaluations of popular alternatives to the FSA85 were presented in a joint briefing February 1987 to the U.S. Senate and House of Representatives staff members. The briefing was cosponsored with the Congressional Research Office and Resources for the Future.

A study of the current management of the FSA85 and two alternative strategies was conducted by FAPRI in July subsequent to publication of the summer 1987 10-year International Agricultural Outlook. An objective of CARD's Trade and Agricultural Policy Division is to develop timely quantitative analyses of current foreign and domestic agricultural policy issues.

CARD has become the North American Center for an international agricultural policy and trade modeling project initiated at the International Institute for Applied Systems Analysis in Vienna. Affiliated with the North American Center are the Economic Research Service of the U.S. Department of Agriculture, the Economics Branch of Agriculture Canada, the Department of Agricultural Economics of the University of Guelph, and the National Center for Food and Agricultural Policy of Resources for the Future. The network will include major research centers in the Netherlands, the USSR, Hungary, India, France, Germany, Japan, Indonesia, and other countries. The objectives of the network are to evaluate long-term trade, domestic agriculture, food, and resource policy issues and initiatives in a worldwide context.

CARD completed work for the Soil Conservation Service of the U.S. Department of Agriculture on the 1985 rural conservation assessment. Impacts of agricultural policies, conservation programs, and world trends in export markets, domestic consumption, and techology were evaluated for implications for soil erosion. Results of this assessment will be used in planning the programs for the Soil Conservation Service in the upcoming decade. A forthcoming report by SCS and a book to be published by the ISU Press, *Future Agricultural Resource Use and Conservation: An Analysis of Findings in the Resource Conservation Act,* will summarize these results and assess their policy implications.

Research was initiated cooperatively with the Environmental Protection Agency on policies for controlling health and environmental risks associated with chemical use in U.S. agriculture. The project will assess the interrelationships between national agricultural policies of the United States in major commodity markets, including regulations of the Environmental Protection Agency, and new state legislation. The objective is to evaluate, in a broad context, the impacts of alternative policies for regulating agricultural chemical use on agricultural income, the competitiveness of U.S. agriculture in world agricultural markets, and the risks to health and the environment. Analytical systems are being developed to estimate the incidence by different regions in the United States and for different producer and consumer groups, along with aggregate impacts of these policies. The EPA and RCA policy analyses are major projects of the Natural Resources and Conservation Policy Division of CARD.

CARD has undertaken evaluations of producer promotion programs for dairy, pork, and beef. Research contracts with these producer group promotion boards have been developed for assessing the implications for producers, consumers, and industry structure of the producer-supported advertising and promotion programs. These promotion boards were authorized by recent national legislation and are due for evaluation during the next year.

On an international level, CARD has undertaken price policy and consumption and nutrition impact projects in Indonesia, Jamaica, Haiti, and Zambia. In Haiti, for example, CARD is participating with the Office of International Cooperation and Development of the USDA, the U.S. Bureau of the Census, and USAID/Haiti in the development and analysis of the first consumer household expenditure and food consumption survey to be conducted in Haiti in 30 years. Policy analysis using these survey data will be used by Haiti in designing and enhancing the economic reforms that have followed the change in government there. This research and the evaluation of promotion programs is being conducted primarily by the Food Consumption and Nutrition Policy Division.

A number of other policy related research activities have been undertaken. Presently, CARD has about 25 research contracts and cooperative agreements. Policy issues covered include analysis of agricultural trade to support the Uruguay Round of the GATT negotiations; a project with the Human Nutrition Information Service of the U.S. Department of Agriculture to improve design of the nationwide food consumption surveys for the United States; analysis of off-site damages of soil erosion; special projects for commodity associations on competitiveness of Iowa and U.S. agriculture; and a rural development economic indicators assessment cooperatively with the National Governors' Association and the Aspen Institute.

Graduate Program

THE NUMBER of graduate students at CARD increased from 32 to 40 during the past year. The composition of graduate students is approximately 50 percent from North America and 50 percent from other parts of the world. The backgrounds of the current international students, representing 12 countries, complement the international and development components of the CARD research program. Presently all of the graduate students at CARD are in the economics program. In the future, graduate students who are pursuing degrees in other graduate programs at Iowa State University will be invited to participate in CARD research.

Graduate students supported by CARD pursue Ph.D. programs that emphasize economic policy and quantitative or econometric research methods. In addition to the usual graduate program, most of these students are encouraged to undertake a "research apprenticeship" while at CARD. This results in a somewhat longer Ph.D. program, but a program in which the students become full-time researchers for a period of one to two years while completing their dissertations. The objective of this apprenticeship is to develop and enhance the research skills of the students through their participation in research involving applications of large-scale quantitative models in policy analysis.

A CARD graduate student presents the results of her research.

Research Program

Natural Resources and Conservation Policy Division

RESEARCH in this division generally addresses policy questions on the management of soil and water resources. More recently studies have concentrated on factors affecting climate. A research emphasis of the division has been to develop analytical models that can provide more comprehensive assessments of policies directly and more indirectly affecting natural resources. Two new modeling efforts undertaken by the division that increase the scope of natural resource policy analysis are the development of the Comprehensive Economic Pesticide Policy Evaluation System (CEPPES) and the establishment of CARD as a North American Center for the network of institutions affiliated with the Food and Agriculture Program at the International Institute of Applied Systems Analysis (IIASA).

For management of soils, the prevailing issue concerns reduced erosion. Soil erosion has different effects; how to best control it depends on how the impacts are weighed. Three general objectives have been emphasized for soil conservation policy: production cost, productivity loss, and off-site damage. Models with multi-objective decision criteria are being applied to determine optimizing conservation policies. This approach was incorporated into the CARD Agriculture Resource Inter-regional Modeling System (ARIMS) used for the 1987 Resource Conservation Act appraisal. The appraisal was conducted jointly by CARD, the Soil Conservation Service, and Economic Research Service of USDA.

Klaus Frohberg is leader of the Natural Resources and Conservation Policy Division.

Natural resource policies have international dimensions and are in turn affected particularly by conditions in international markets for agricultural commodities. Of course, these markets are continually responding to agricultural, trade, and macroeconomic policies of the United States and other major trading nations. For these analyses an estimated general equilibrium model, the Basic Linked System (BLS), will be used.

The BLS was developed by the Food and Agriculture Program at IIASA in cooperation with the Center for World Food Studies, Amsterdam. Using this model, CARD evaluates agricultural policies for North America designed to provide better adjustments of agricultural and food production

systems to world economic conditions. CARD in affiliation with IIASA will design and implement improved versions of the Canadian and U.S. components of the BLS. Analyses of the comparative advantage for various countries and regions that emphasize agriculture will become an ongoing theme in CARD research. Institutions cooperating with CARD in establishing the NAC are Economic Research Service, USDA; Marketing and Economics Branch, Agriculture Canada; the University of Guelph; and the National Center for Food and Agricultural Policy of Resources for the Future.

All soil and water conservation issues are not national. For the southeastern United States we are studying the competitiveness between forest and crop production. Under what conditions is it more economical to produce timber than agricultural products? The regional optimization model was constructed to evaluate this multifaceted issue and provide policymakers with information on enterprise choice and impacts on soil erosion.

Results from the long-term analysis for the RCA indicate an abundance of agricultural land relative to future national and international demands for food and fiber. Low input and more extensive technologies for agricultural production are being evaluated as an ongoing part of the analysis. Can these methods compete with intensive farming technologies now widely in use? Do millions of acres of productive cropland need to be idled while those under cultivation are farmed intensively? What are the economic and soil and water conservation implications of continued use of chemicals to increase yields? Increasingly, data for the analyses are from process models used to stimulate plant growth and impacts of erosion.

A major policy study on pesticides and groundwater quality was undertaken cooperatively with the Office of Policy Analysis of the Environmental Protection Agency this year. The analysis includes a structure for estimating the fate of agricultural applications of pesticides on water, the air, and food. The first phase of the project for a pilot region in the upper Mississippi Basin is near completion. A variety of models have been linked to form the CEPPES: firm, regional, and national economic models. Also, plant growth models, leaching models, hydrology models, and air transport models are included in the system. The pilot study is designed to evaluate data available for application of such systems for examining health and environmental implications of commodity, pesticide, and other regulations of U.S. agriculture. The Mississippi Basin pilot study was used in conducting this evaluation.

Other research in the division is examining the liberalization of interstate and within-state regulations for allocation and use of surface water in the the Colorado River Basin. Economic and environmental impacts of urban dwellers in the lower basin buying or leasing upper basin agricultural water rights are being analyzed. The lower basin contains higher-valued agricultural users and urban consumers paying up to 10 times more per acre-foot for water than the upper basin agricultural users for increasingly scarce supplies.

Policy studies in natural resources and conservation have a common feature that is perhaps indicative of policy economic modeling systems: the integration of economic, phenological, and biogeophysical process models. Use of these models in integrated policy evaluation systems provides results with stronger scientific content.

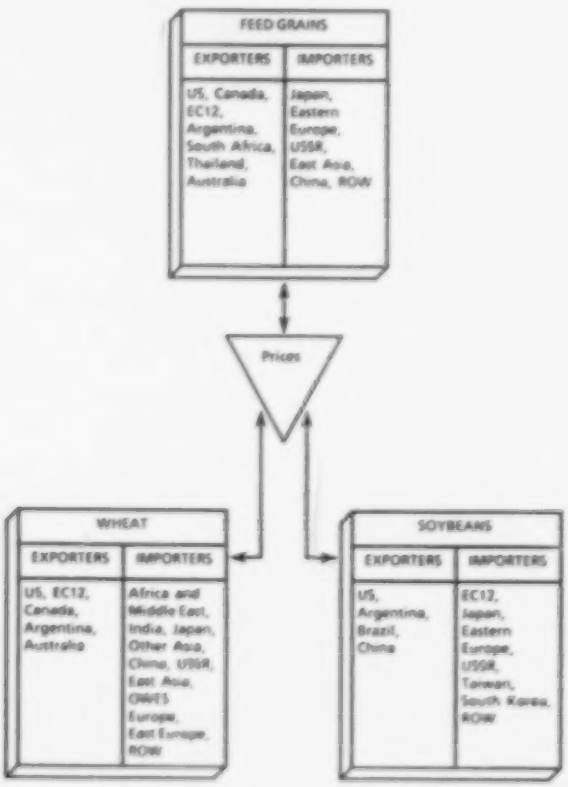
Trade and Agricultural Policy

RESEARCH in this division concerns domestic and international markets for major U.S. agricultural commodities. Policies of the United States and other governments are related to these markets and the performance of the U.S. agricultural sector. The research draws upon and contributes to a system of large-scale econometric policy evaluation models developed and maintained by CARD. This system requires extensive data bases, policy parameters for major importing and exporting countries, and advanced modeling methods.

The data base on which the policy models reside includes: supply and use for U.S. crops and livestock and associated farm, wholesale, and consumer prices; supply and use and related information for 172 countries and regions from the Foreign Agricultural Service of the U.S. Department of Agriculture; and producer prices from the Food and Agriculture Organization (FAO) of the United Nations for 158 countries. Prices at major export and import terminals are also maintained as well as exchange rates and trade policy parameters influencing price linkages among markets. Farm income and expense data for the United States are included also. Historical and long-term forecasts for the U.S. economy and international macroeconomic and financial statistics are available through an electronic link with Wharton Econometric Forecasting Associates.

S. Devadoss is leader of the Trade and Agricultural Policy Division.

Figure 1. CARD Regional Trade Models



The domestic commodity models incorporate annual supply and demand relationships for U.S. feed grains, wheat, soybean, soybean meal, soybean oil, cotton, rice, and dairy products. Quarterly systems are maintained for U.S. beef, pork, and poultry. The trade models are revised annually for the United States and for major foreign importers and exporters of wheat, feed grains, and soybeans (See Figure 1). During the past year, more regions and countries have been added to the trade modeling system. This re-

search will continue with the system being expanded to include rice and cotton.

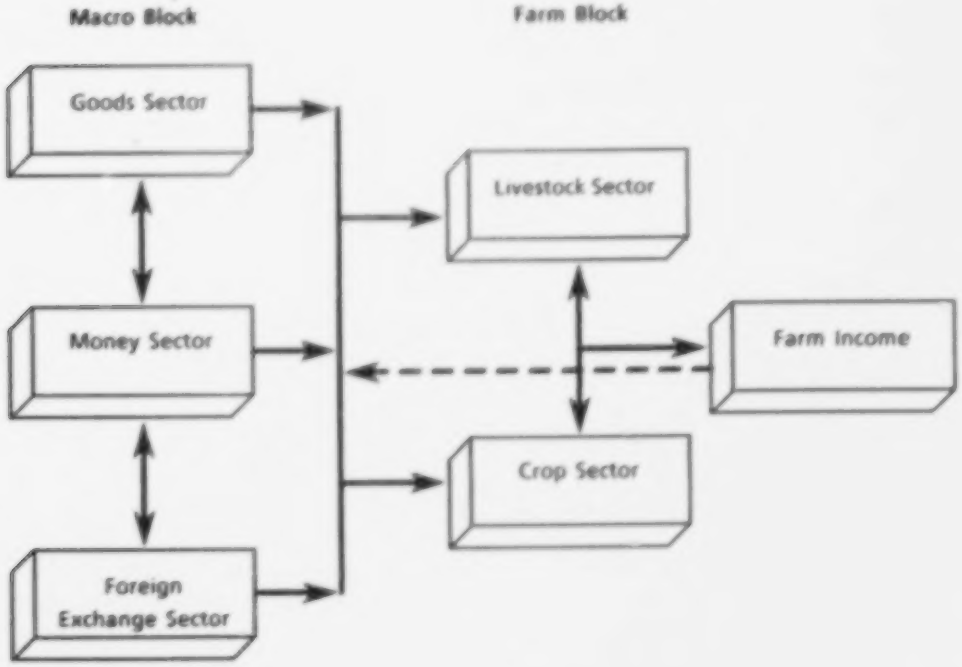
During the past year, our domestic commodity models were enhanced through more explicit reflection of government programs and policy instruments. Detailed computational models for generating estimates on farm income and government cost accounts were also developed during the year. As a recursive component of the system, an Iowa model is used to estimate impacts on Iowa agriculture of market conditions as influenced by national and international agricultural policies and the macroeconomy.

For more aggregated analyses of interactions of the macroeconomy and the farm sector, a three-sector model is available. This model includes crops, livestock, and the general economy as three endogenous and interacting sectors (See Figure 2). Linkages and feedbacks between agriculture and the general economy, including major financial markets are encompassed.

In addition to research to expand and update the analytical modeling system, several major policy exercises were conducted. These projects were funded by the Food and Agricultural Policy Research Institute (FAPRI), the Economic Research Service of the USDA, the Iowa Corn and Soybean Promotion Boards, the U.S. Feed Grains Council, and the Commission of the European Communities (Refer to page 17 on project listings). The data base and analytical modeling systems at CARD are viewed as primary resources for policy studies. They are maintained and adapted much as other physical and human capital resources are in the production of information, in this case policy analyses.

Highlighting the policy studies conducted during the year were those presented to the U.S. Congress and in public forums. These policy studies compared the currently operating Food Security Act of 1985 with three alternatives that were being widely discussed in Congress and in

Figure 2. Flow Diagram for the Macrolinkages Model



the press. They included the extension of the market loan option to grains and soybeans, the Administration's proposal in 1987 to reduce target prices more rapidly, and the Harkin-Gephardt mandatory supply control proposal.

In the large cooperative study with several universities and the Economic Research Service, CARD conducted studies on the impacts of macroeconomic changes in the early 1980s on U.S. agriculture and on export disposal options for corn and wheat stocks. The basic models were modified for sensitivity testing of results with alternative export demand elasticities for the United States. In the U.S. Feed Grains Council project conducted with Wharton Econometrics, the feed grain models were simplified and the number of specific countries and regions were increased. This specialized, single commodity model is a microcomputer based model designed for forecasting and impact analysis.

Reports and publications from studies conducted under the FAPRI affiliation with the University of Missouri are listed on p. 24.

Food Consumption and Nutrition Policy

AGRICULTURAL and food policies affect the income, food consumption, and nutrition of households in countries throughout the world. Research in the Food Consumption and Nutrition Policy Division investigates indirect consequences of policies designed to alter agricultural prices, income, technology, and demographics related to food consumption and nutritional status. Also, more direct impacts of education, product promotion, and food assistance are assessed for impacts on food consumption and nutrition. Policy models and empirical studies using aggregate time series and household survey data from the United States and other developed and developing countries are employed.

Helen Jensen is leader of the Food Consumption and Nutrition Policy Division.

During 1986-87, CARD's work on food consumption and nutrition policy increased. In addition to research relating agricultural and food policies to food consumption and nutritional status, projects directly involving agricultural commodity marketing, promotion, and food assistance programs were initiated. Theories of household decision making and information, especially as related to food demand and consumption, contributed significantly to the structure of the policy models developed for these newer projects.

Economic liberalization and the increasingly important role of trade in agricultural commodities for the economies of developing countries motivated several studies on agricultural policy, food consumption, and nutrition. Major studies in this area were completed for Indonesia and Zambia. Consumer demand systems estimated for Indonesia provided the basis for inte-

grating food and agricultural policy by evaluating the extent to which households with different income levels and in different regions would be affected by policy-determined price and income changes.

Consumer demand parameters are key components of most models used for consumption, nutrition, and agricultural price policy analyses. Estimated complete demand systems and food consumption-nutrition linkages were used for descriptive analyses. These systems were used in more comprehensive policy models incorporating feedbacks from agricultural pricing to incomes of rural households. The agricultural policy evaluated for Indonesia involved price of rice and fertilizer subsidy changes. For Zambia, aggregate multi-commodity production and distribution system models were developed and used to evaluate impacts for consumption patterns and government cost of alternative maize pricing policies.

In Haiti, major changes in agricultural policies have occurred in the last year and are anticipated in the year to come. Data from a complete consumer expenditure and food consumption survey are being used to assess alternative agricultural pricing policies, especially for rice, corn, millet, and wheat. CARD has assisted the Haitian Statistical Institute and the International Programs Division of the Bureau of the Census in developing and conducting the survey in Haiti. The data are being processed both in Haiti and at CARD.

Other CARD food policy studies involving taxation, the food distribution system, and health are ongoing in Haiti as well. Cost of living, demand studies estimation, and income distribution studies are being conducted in Jamaica cooperating with the Statistical Institute, the Planning Institute and the USAID Mission. CARD researchers have traveled to Indonesia, Zambia, Haiti, and Jamaica in the past year to conduct workshops designed to assist policymakers in the use of quantitative food policy models and related survey and time series data.

Agricultural producers in the United States and elsewhere have engaged in marketing strategies and promotional initiatives to expand demands for their products. Effects of these programs on food consumption and nutritional status depend on how the associated information alters perceptions and consumption decisions. The promotion of dairy products through calcium advertising and its health-promoting benefits is an example of these producer initiatives. Comparisons of dairy and nondairy sources of calcium using surveys of U.S. household food consumption showed significant changes in dairy product consumption during the last decade. In 1985-86, women consumed more calcium, including more calcium through dairy products, than in 1977/78. However, calcium intake levels continued to remain below recommended dietary allowances.

A CARD study on the factors affecting consumption changes using data from a survey of attitudes about calcium and dairy products showed that information and awareness about calcium and good health increased consumption of dairy products. CARD has been evaluating

The Haitian Statistical Institute and U.S. Bureau of Census cooperated with CARD in conducting a nationwide household consumer expenditure survey in Haiti.

the changing structure of demand for red meats and evaluating the effectiveness of the promotion program for pork, in particular. These studies are designed to provide a better understanding of promotion and other factors affecting food consumption patterns and changes over time.

A report on nutrition monitoring in the United States was submitted to Congress by the departments of Agriculture and Health and Human Services on July 15, 1986. The report was produced by the Joint Nutrition Monitoring Evaluation Committee (JNMEC), established as a federal advisory committee in October of 1983. The committee included Stanley R. Johnson, administrator of CARD. The JNMEC report is the first to bring together information from the major components of the National Nutrition Monitoring System and demonstrate how the system can be applied to study the nutritional status of the American population. Priority food components in diets were established for monitoring health and nutritional status in the United States, using information from the National Nutrition Monitoring System.

Food assistance programs are targeted to groups in the population most likely to be at nutritional risk. Threshold or "cut-off" indicators, such as the Recommended Dietary Allowances, have frequently been used to identify these at-risk groups. These indicators, however, do not reflect the distribution of requirements for individuals. CARD research in methodologies for improving dietary status assessment is under way. Specifically, recent U.S. Department of Agriculture food consumption surveys are being used to evaluate alternative methods of assessing the adequacy of diets and identifying groups at nutritional risk. In other projects the agricultural pricing policies continue to be investigated for efficiency in achieving food assistance objectives.

Rural and Economic Development Policy

THE RURAL economies of the United States and other developed and developing countries are undergoing continual change in economic structure. In large measure these changes are attributable to technological and to domestic and international agricultural and trade policies. Research in the Rural and Economic Development Policy Division at CARD evaluates the implications of these policies for rural areas. The policy analyses provide support for the design and implementation of rural economic development initiatives.

CARD research associate works on data base component of an econometric model.

The research in this division is building on the strong tradition of CARD policy analysis in rural and economic development, which was especially prominent during the 1960s and early 1970s. Two major projects are under way. Both of them emphasize quantitative approaches to rural economic development policy analysis.

In a joint effort with the Aspen Institute and the Center for Policy Research of the National Governor's Association, CARD is developing indicators of economic performance that can be used to guide rural development policy in midwestern states. Similar to economic indicators for the nation, these indicators will be designed to monitor economic performance and provide leading information on conditions indicative of economic change. Nontraditional data sources are being explored as possibilities for developing and testing these indicators.

CARD has signed a memorandum of understanding with the Center for Policy Research of the National Governor's Association. Under this agreement and to be supported by special contract funding, CARD will develop accessible data bases, policy models residing on these data bases, and special policy studies for governors' staffs involved in rural development policy. The plan is to ultimately share the user-friendly system with the Center for Policy Research and the state Governors' offices. The Center for Policy Research and CARD will research policy issues jointly with representatives of participating states.

These efforts with the Center will be initiated as funding becomes available. The work will capitalize on CARD's resources in agricultural and natural resource policy modeling.

Research Centers Affiliated with CARD

THE RESEARCH program at CARD emphasizes applications of large-scale quantitative models in policy analysis in four primary areas: natural resources and conservation, trade and agricultural policy, food consumption and nutrition policy, and rural and economic development policy. As a basis for increasing the research capacity of CARD and blending it with research capabilities at other institutions, a number of affiliations have been developed with other research and public institutions.

The Food and Agricultural Policy Research Institute (FAPRI) organized between Iowa State University and the University of Missouri is funded by a special congressional grant. Through this institute, CARD participates with the Center for National Food and Agricultural Policy at the University of Missouri-Columbia. Comprehensive analyses of national agricultural and trade policy are conducted by the institute. As well, the institute is responsible for the production of a 10-year baseline set of projections for major domestic and international agricultural markets. These 10-year projections form a baseline around which the policy analyses of FAPRI are conducted.

A second affiliation is with the National Governors' Association Center for Policy Research (CPR). The affiliation was developed in response to a need to strengthen agricultural, resource, and rural economic development policy formulation and evaluation capabilities within governors' offices and state governments. Under Aspen Institute funding, CARD and CPR have initiated a project to develop performance indicators for rural economic development projects. Other joint projects are being explored to assist governors' offices in performing policy analysis.

A new affiliation, organized in 1986 with the Food and Agricultural Program at the International Institute of Applied Systems Analysis (IIASA), has resulted in a multi-country computable general equilibrium model being installed at CARD. CARD and approximately 10 research institutions in other countries are forming a network that will update and improve the general equilibrium modeling system and engage in

Michail A. Polyakov (left), a senior researcher at the Institute of Economics of the USSR Academy of Sciences, talked with CARD researchers in the summer of 1986 during his visit to the United States under auspices of the International Research and Exchanges Board (IREX). Mr. Polyakov was given an overview of CARD's applied domestic and international econometric modeling systems and data bases.

longer-term joint research projects on food, agricultural trade, and natural resource policies. A feature of this model is the integration of the agricultural markets with natural resource markets and with the nonagricultural economy.

In addition to CARD, the North American Center has as participants the University of Guelph, the Economics Branch of Agriculture Canada, the Economics Research Service of the U.S. Department of Agriculture, and the National Center for Food and Agricultural Policy at Resources for the Future. A general research theme for the North American Center is policy research for evaluating the competitiveness of North American agriculture.

A multilinked research endeavor in which CARD will be involved is the Midwest Agribusiness Trade Research and Information Center (MATRIC). This center, funded under authorization of the Food Security Act of 1985, is dedicated to producing a marketing and policy information system to improve the access to foreign markets by small and medium size enterprises in the midwestern United States. Involved in this center are Iowa State University's Meat Export Research Center, Food Crops Processing Research Center, and College of Business International Research Group along with the Greater Des Moines Chamber of Commerce Federation. The objective of the center is to use modern data base management systems and policy modeling capabilities available and initiated at ISU to support enhanced trade initiatives by midwestern firms. MATRIC will reduce the otherwise prohibitive cost to these firms of access to comprehensive trade information that can contribute to an improved level of economic activity and growth.

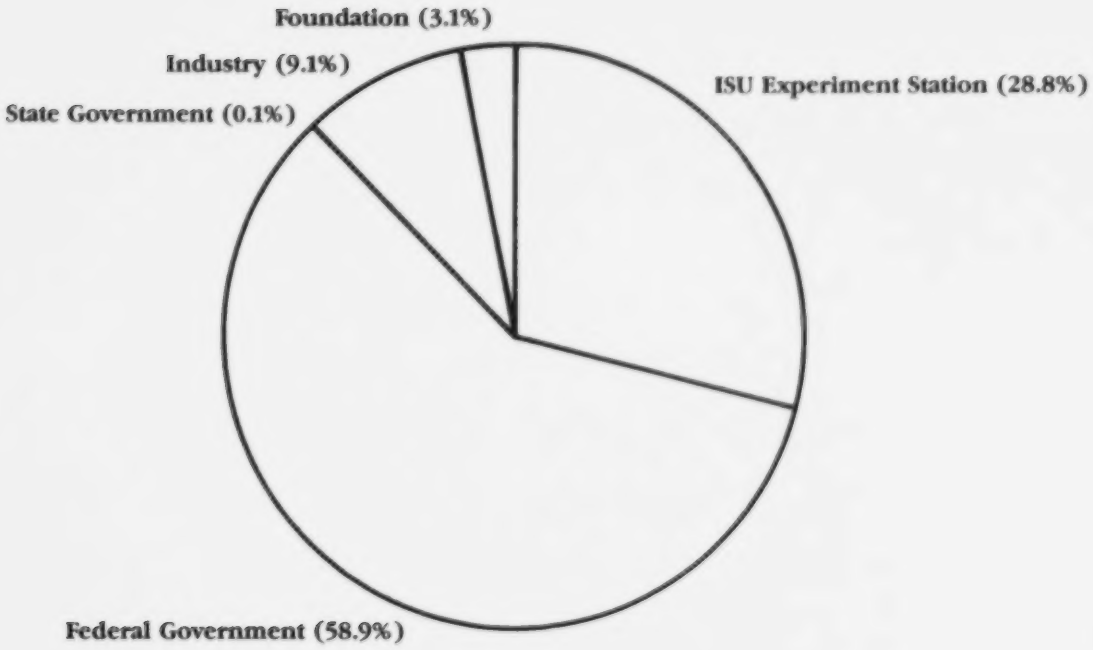
Contracts and Grants Projects

Natural Resources and Conservation Policy	**Duration**
Contract Systems and China's Agricultural Development	1984-88
Development of an International Agricultural Policy Network	1986-88
Natural Resource Modeling and Analysis	1985-89
Pesticide Policy Evaluation System and Pilot Study for the Midwest	1986-88
Crop Residues for Energy Production	1987
Off-site Erosion Costs	1985-87
Skunk River Basin Study	1983-88
Linking AGNPS and URNPS Models with Economic Models	1986-88
Appraisal of U.S. Soil and Water Resources	1986-88
Iowa Erosion and Source of Sand and Clay	1979-87
Development and Maintenance of National Models	1985-90
Resource Conservation Act Analysis	1979-90
Trade and Agricultural Policy	
Food and Agricultural Policy Research Institute	1984-88
World Feed Grains Demand Modeling and Analysis	1985-88
Analysis of Commodity Program Alternatives	1983-89
Least Cost Production of Hybrid Corn Seed	1986-87
Iowa Corn Sector Linkages to National and International Markets and Policies	1985-87
Marketing Loan Program for Soybeans	1986-87
Impact of Disharmonies in U.S. Agricultural Policy	1986-87
Analysis of Selected Issues Impacting Agricultural Trade Expansion and the Competitiveness of U.S. Agriculture	1987-88
Food Consumption and Nutrition Policy	
Food Consumption and Agricultural Policies in Indonesia and Zambia	1984-87
National Dairy Board Calcium Study	1987
Methodology for Predicting Nutrient Intake	1985-87
Food Consumption and Price Policy Analysis for Haiti	1986-88
Consumption Effects of Agricultural Policy—Handbooks	1986-88
Methodological Factors Affecting the Measurement of Dietary Status	1986-88
Survey Data Editing and Processing in Haiti	1987
A Comprehensive Program Evaluation System for Pork Producers	1987-88
Rural and Economic Development Policy	
Economic Development Information Systems	1985-88

Sources of Support

FUNDING FOR CARD that was received through the Iowa State University Experiment Station included the Hatch Act regional appropriation, CARD annual budget, and state project funding. This totaled approximately 30 percent of CARD's operating budget for 1986-87; 70 percent was received from outside the Experiment Station in the form of grants and contracts from the federal government, state government, industry, and foundations. See figure below.

Sources of CARD Funding



Contracts and Grants Funding Sources, 1986-87

Public

State
- Iowa Department of Soil Conservation

Federal
- Economic Research Service, USDA
  Natural Resource Economics Division
  International Economics Division
- Environmental Protection Agency
- Soil Conservation Service, USDA
- Office of Nutrition, USAID
- National Dairy Board
- Health and Nutrition Information Service, USDA
- Office of International Cooperation and Development, USDA
- Office of Economic Analysis, USAID
- Special Grant, U.S. Congress

International
- University of Kiel (W. Germany)

Private Corporations
- Wharton Econometrics
- Pioneer Hi-Bred International, Inc.

Foundations and Industry Groups
- Southern Iowa Agriculture Boosters
- National Corn Development Foundation
- Iowa Corn Promotion Board
- Iowa Soybean Promotion Board
- Iowa Natural Heritage Foundation
- National Pork Producers Council
- U.S. Feed Grains Council
- Aspen Institute

Operating Budget

Total CARD Budget, Fiscal Year 1986/87

Receipts		**Expenditures**	
Experiment Station		Salary, Wages & Benefits	$1,230,800
CARD Budget	$316,600	Sub Contracts	$68,900
Hatch Regional	$46,800	Computer Services	$166,400
State Projects	$130,000	Printing/Supplies	$120,000
Subtotal	$493,400	Travel	$71,000
		Other	$55,400
Contracts and Grants			
Fed. Government	$1,008,700		
State Government	$1,300		
Industry	$156,000		
Foundation	$53,100		
Subtotal	$1,219,100		
Total	$1,712,500	Total	$1,712,500

CARD Staff

Administrator—Stanley R. Johnson
Associate Administrator—William H. Meyers

Other Faculty
Kwan Choi
S. Devadoss
Klaus Frohberg
Helen Jensen
Paul Rosenberry

USDA Collaborator
Wen-Yuan Huang

Post-Doctoral Research Associates
Kamal Banskota
Matt Holt
Tesfaye Teklu
Rhung-Jieh Woo

Publications/Information
Judith Gildner
Kathy Glenn-Lewin

Accountant
Sherry Cooper

Computer and Data Support
Todd Campbell
Bruce Eveland
Helen Graham
Doug Haney
Dana Kain
Jess Robinson
Duane Schouten
Brett Uytiepo
Phil Vande Kamp

Secretaries
Tammy Crispin
Karleen Gillen
Kim Krog
Marilyn Mortvedt
Mary Shearer

Pre-Doctoral Research Associates
Bruna Angel
Satheesh Aradhyula
Jay Atwood
Gary Cole
Michael Helmar
T. Kesavan
David Krog
George Oamek
Karl Skold
Patrick Westhoff
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Graduate Research Assistants
Dabai Chen
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Patricia Godoy
Thomas Harrington
C. Lin Hwang
Gregg Heidebrink
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Derald Holtkamp
Jong Jeon
Eileen Krakar
Bruno Larue
Sergio Lence
Zong-Shin Liu
Jian-Chun Ma
Deepa Majumdar
Sheila Martin
Fred Oleson
Shihua Pan
Cheol-Soo Park
Premakumar
Khalid Riaz
Neil Schneider
Seung Youll Shin
Kai-one Sriplung
Attapol Threemonkong
Greg Traxler
Koji Yanagishima
Grace Tsai

Publications and Presentations by CARD Staff

CARD MONOGRAPHS, staff reports, working papers, and reprints are available to public and private agencies and interested individuals. CARD faculty, staff, and graduate students publish their research results in books, chapters, journal articles, monographs, pamphlets, proceedings, and reports. More than 65 separate pieces were published in 1986/87. Research results are presented at public briefings and to professional meetings throughout Iowa, the United States, and abroad. During the year, CARD staff made 69 presentations. Publications and presentations are listed on following pages.

The *CARD report* was inaugurated in October 1986. This eight-page informational quarterly summarizes research projects and staff activities and lists recent publications. It informs public and private audiences about ongoing research and personnel at CARD. Subscriptions to *CARD report* are free and may be obtained by writing the CARD Office of Publications, 578 Heady, Iowa State University.

Number of CARD Staff Presentations, 1986-87

Government and Industry Meetings and Conferences	
Iowa	5
U.S.	16
Foreign	10
Professional Meetings, Seminars, Conferences	
Regional	11
National	20
International	7
TOTAL	69

CARD Reports

The CARD (research) Report series ended in 1986 and has been replaced by the Monograph series. Almost all of the 134 CARD Reports are in print and available postpaid for $5 per volume.

CARD 133 Predictive Econometric Modeling of the U.S. Farmland Market: An Empirical Test of the Rational Expectations Hypothesis. Kevin Clare Moore and William H. Meyers. 93 pp. 1986.

CARD 134 Analysis of the Impact of the 1981 and 1982 Federal Tax Legislation on Farmers. J. Lowenberg-DeBoer and Michael D. Boehlje. 186 pp. 1986.

CARD Monographs

The CARD Monographs are primarily for professional economists. This series includes theoretical, descriptive, and policy studies. Publication is in key CARD research areas: natural resources and conservation, agricultural trade, food consumption and nutrition, and rural and economic development.

87-M1 Macrolinkages Between Nonfarm and Farm Sectors: The Impacts of Monetary Policies on U.S. Agriculture. S. Devadoss, William H. Meyers, and Dennis R. Starleaf. July 1987.

CARD Working Papers

Card Working Papers summarize contemporary research results in the four key areas of research interest. Publications include papers presented by CARD staff and summaries of preliminary research results. The papers are circulated to stimulate discussion and critical comment.

86-WP6 Incorporation of Fixed-Flexible Exchange Rates in Econometric Trade Models: A Grafted Polynomial Approach. Zon-Shin Liu, S. Devadoss, and William H. Meyers. July 1986.

86-WP7 A Study of Productivity Changes on Individual Crops. Chang-Fu Wanglian and J. Arne Hallam. July 1986.

86-WP8 Soybean Import Demand in Taiwan: Economic Growth and Policy Impacts. Rhung-Jieh Woo, Peter H. Calkins, and William H. Meyers. July 1986.

86-WP9 Measuring Foreign Supply Response to Changes in U.S. Prices: An Argentine Example. Patrick C. Westhoff. July 1986.

86-WP10 Exchange Rates, Trade Deficits, and U.S. Prices. S. Devadoss, William H. Meyers, and Stanley R. Johnson. July 1986.

86-WP11 Dairy Policy: An Analysis of the U.S. Dairy Industry Through 1995. David R. Krog and Satheesh V. Aradhyula. July 1986.

86-WP12 Supply Dynamics in the U.S. Hog Industry. Matthew T. Holt and S. R. Johnson. July 1986.

86-WP13 EC Trade Liberalization and World Trade in Feed Grains: A Comparison and a Criticism. Aniss Bahrenian and William H. Meyers. July 1986.

86-WP14 Doable General Equilibrium Models: Comment on Three Papers Presented to the 1986 AAEA Meetings. S. R. Johnson. July 1986.

86-WP15 The U.S. Export Response to Prices and the Impacts of Trade Liberalization: A Regional Trade Model Analysis. William H. Meyers, S. Devadoss, and Michael Helmar. September 1986.

86-WP16 Nonneutral Effects of Money Supply on Farm and Industrial Product Prices. S. Devadoss and William H. Meyers. November 1986.

86-WP17 Macroeconomic Impacts on the U.S. Agricultural Sector: A Quantitative Analysis for 1980-84. William H. Meyers, Michael Helmar, S. Devadoss, Robert E. Young II, and David Blandford. November 1986.

86-WP18 An Export Disposal Policy for Wheat and Corn Stocks by the United States: A Quantitative Analysis for 1977-1984. William H. Meyers, S. Devadoss, and Michael Helmar. November 1986.

86-WP19 Discriminating Rational Expectations Models with Non-Nested Hypothesis Testing: An Application to the Beef Industry. Satheesh V. Aradhyula and Stanley R. Johnson. January 1987.

87-WP20 Farm Economies of the Plains: A Comment. William H. Meyers. May 1987.

87-WP21 Future Challenges in Agricultural Export Marketing. William H. Meyers. May 1987.

87-WP22 Structural Change in Meat Demand: The End of the "Chicken Little" Era. S. R. Johnson. June 1987.

87-WP23 Demand Uncertainty and Price Stabilization. E.K. Choi and S.R. Johnson. June 1987.

87-WP24 Demand Systems from Cross Section Data: An Experiment for Indonesia. Tesfaye Teklu and S. R. Johnson. June 1987.

CARD Staff Reports

CARD Staff Reports provide research findings of timely interest in policy areas related to CARD's key research areas. Project reports, policy studies, conference presentations, and technical papers are published as staff reports. Copies are available free upon request.

87-SR34 Agricultural Restructuring Requirements by Farm Credit System District. Damona G. Doye, Robert W. Jolly, and Darrel Choat. May 1987.

87-SR35 Farm Financial Conditions in Agriculture Within Farm Credit System Districts. Robert W. Jolly, Damona G. Doye, and Darrel Choat. May 1987.

87-SR36 Input Price Uncertainty and Factor Demand. S. Devadoss and E. K. Choi. June 1987.

CARD Reprints

The CARD Reprint Series contains selected published journal articles, book chapters, and other materials authored by CARD staff members and graduate students.

"Application of Econometric Models to Evaluate Agricultural Policy: An Example," by William H. Meyers, Abner W. Womack, S. R. Johnson, and Robert E. Young II. In *International Dairy Federation Bulletin*. No. 197. 1986.

"Consistency of Elasticities from Multiple Levels of Budgeting Process," by Z. A. Hassan and S. R. Johnson. *Journal of Agricultural Economics*. 34. 1986.

"Food Shopping Patterns and Nutritional Quality of Diets," by Karen J. Morgan and S. R. Johnson. *Cereal Foods World*. 30. 1985.

"Future Challenges for Modeling in Agricultural Economics," by S. R. Johnson. *American Journal of Agricultural Economics*. 68. 1986.

"A Global View on Agricultural Trade with Special Emphasis on the Dairy Sector," by Klaus Frohlberg. In *International Dairy Federation Bulletin*. No. 197. 1986.

"Reliability of Linear Programming Software: An Experience with IBM Mathematical Programming Series. A Comment," by V. A. Sposito and Burton C. English. *American Journal of Agricultural Economics*. 68. 1986.

"Variability, Reliability, and Validity of Dietary Survey Data," by S. R. Johnson. *Cereal Foods World*. 32. 1987.

FAPRI Staff Reports

The Food and Agricultural Policy Research Institute, an affiliate of CARD, conducts research on domestic and international economic relationships that affect agriculture. FAPRI's staff reports are intended to help policy participants and decisionmakers evaluate short-term and long-term implications for the U.S. food and agriculture industries. Copies are available free upon request.

3-86 Food Security Act of 1985 One Year Later: Implications and Persistent Problems. FAPRI. December 1986.

1-87 Comparative Analysis of Selected Policy Options for U.S. Agriculture. FAPRI. February 1987.

2-87 The Commodity Supply Management Program. FAPRI. February 1987.

Journal Articles

"Assistance for Water Resource Development in Pakistan," Greg Traxler and Vernon W. Ruttan, *Pakistan Journal of Agricultural Social Sciences* I. 1986.

"Consistency of Elasticities from Multiple Levels of Budgeting Process," Z. A. Hassan and S. R. Johnson. *Canadian Journal of Agricultural Economics*. 34. 1986.

"Consumer's Surplus and Price Uncertainty," E. Kwan Choi and S. R. Johnson. *International Economic Review*. 28. 1987.

"Determinants of Health Insurance Coverage for Family Farm Households: A Midwestern Study," H. H. Jensen and W. E. Saupe. *North Central Journal of Agricultural Economics*. 9. 1987.

"Doable General Equilibrium Models: Discussion," S. R. Johnson. *American Journal of Agricultural Economics*. 68. 1986.

"Extension Program Evaluation Using Normative Decision Models," Thomas D. Knight, S. R. Johnson, and Robert M. Finley. *American Journal of Agricultural Economics*. 69. 1987.

"Food Usage Patterns as Related to Nutritional Quality of Household Food Supplies," Karen J. Morgan, Betty B. Peterkin, S. R. Johnson, and Basile Gourgetas. *Home Economics Research Journal*. 15. 1986.

"The Iowa State University FAPRI Trade Model," William H. Meyers, S. Devadoss, and Michael Helmar. *Proceedings: Agricultural Trade Modeling, The State of Practice and Research Issues*. International Agricultural Trade Research Consortium. Vancouver, British Columbia, Canada, 1987.

"Meat Export Marketing: Lessons from Successful Exporters," Karl D. Skold, Gary W. Williams, and Marvin L. Hayenga. *Agribusiness*. 3. 1987.

"The Older Consumer in the New Financial Services Market," A. Chen and H. H. Jensen. *Journal of Applied Gerontology*. 6. 1987.

"Projected Impact of the 1985 Food Security Act on U.S. Agriculture 1985-1995," S. R. Johnson and William H. Meyers. *Journal of Agribusiness*. 5. 1987.

"Recent Evidence on Market Demand Systems for Food in Canada," A. N. Safyurtlu, S. R. Johnson, and Z. A. Hassan. *Canadian Journal of Agricultural Economics*. 34. 1986.

"Trade Imbalance, the Factor Proportions Theory and the Resource Content of International Trade," F. R. Casas and E. K. Choi. *International Review of Economics and Business*. 34. 1987.

Monographs, Reports, Chapters, and Papers

"Application of Econometric Models to Evaluate Agricultural Policy: An Example," W. H. Meyers, A. W. Womack, S. R. Johnson, and R. E. Young II. In *Workshop on Demand Analysis and Policy Evaluation*. International Dairy Federation Bulletin No. 197. 1986.

"Determining the Economic Viability of Terracing in Iowa," Burton C. English and David R. Krog. In *Agricultural Soil Loss Process, Policies, and Prospects*, J. M. Harlin and G. M. Berardi, eds. Boulder, Colo.: Westview Press. 1987.

"An Export Disposal Policy for Wheat and Corn Stocks by the United States: A Quantitative Analysis for 1977-1984," William H. Meyers, S. Devadoss, and Michael Helmar. In *Embargoes, Surplus Disposal, and U.S. Agriculture*. Washington, D.C.: ERS-USDA. Report No. 564. 1986.

"Household Risk Management and Human Resources," H. H. Jensen. In *Human Resources Research, 1897-1987*, R. E. Deacon and W. E. Huffman, eds. Ames, Iowa: Iowa State University, College of Home Economics. 1986.

"International Institute for Applied Systems Analysis Basic Linked System World Agricultural Model," Klaus Frohberg. In *The International Trade Research Consortium Agricultural Trade Modeling The State of Practice and Research Issues*. Washington, D.C.: ERS-USDA. 1987.

"Macroeconomic Impacts on the U.S. Agricultural Sector: A Quantitative Analysis for 1980-84," William H. Meyers, Michael Helmar, S. Devadoss, Robert E. Young II, and David Blanford. In *Embargoes, Surplus Disposal, and U.S. Agriculture*. Washington, D.C.: ERS-USDA. Report No. 564. 1986.

"Market Demand Functions," S. R. Johnson, R. D. Green, Z. A. Hassan, and A. N. Safyurtlu. In *Food Demand Analysis: Implications for Future Consumption*, Oral Capps, Jr. and Benjamin Senauer, eds. Department of Agricultural Economics, Virginia Polytechnic Institute. 1986.

"A Method for Adapting a Monthly Behavioral Relationship for Use in an Annual Model," Duane Schouten and William H. Meyers. In *Applied Commodity Price Analysis, Forecasting, and Market Risk Management*. Proceedings of the NCR-134 Conference, St. Louis, Missouri. 1986.

"Midwest Agriculture and the Food Security Act of 1985," S. R. Johnson. In *Agricultural Distress in the Midwest: Past and Present*, The Center for the Study of the Recent History of the United States. University of Iowa. 1986.

"Monetary Policies, Interest Rates, and U.S. Agriculture: An Econometric Simulation Analysis," S. Devadoss and William H. Meyers. *Proceedings of the Seventeenth Annual Pittsburgh Conference on Modeling and Simulation*. 1986.

"Nutrition Monitoring in the United States: A Progress Report from the Joint Nutrition Monitoring Evaluation Committee" (S. R. Johnson, Evaluation Committee Member). Washington, D.C.: USDA and Department of Health and Human Services. DHHS Publication No. (PHS) 86-1255. 1986.

"Persistence in Consumption Patterns: Alternative Approaches and an Application of the Linear Expenditure Systems," S. R. Johnson. In *Food Demand Analysis*, Robert Raunikar and Chung-Liang Huang, eds. Ames: Iowa State University Press. 1987.

"Price Stabilization Theory: Issues for Red Meats in Canada," E. Kwan Choi and S. R. Johnson. In *Modeling Livestock Stabilization*, Merritt Cluff and H. Bruce Huff, eds. Ottawa, Ontario: Agriculture Canada. 1986.

"Provisions of the 1985 Food Security Act," S. R. Johnson, William H. Meyers, Abner W. Womack, Robert Young II, and Michael Helmar. In *Impacts of Farm Policy and Technological Change on U.S. and California Agriculture*, Harold O. Carter, ed. Agricultural Issues Center. University of California-Davis. 1986.

"A Resource Policy Analysis for the Southeast Region," Jay Atwood. In *Southeastern Drought Symposium Proceedings*. South Carolina State Climatology. Pub. G-30. 1987.

"The U.S. and Iowa Soybeans Markets: Implications to Iowa Soybean Producers," Mark S. Ash and William H. Meyers. In *Applied Commodity Price Analysis, Forecasting, and Market Risk Management*. Proceedings of the NCR-134 Conference, St. Louis, Missouri. 1986.

"Uses and Applications of Econometric Models: A Broad Perspective," S. R. Johnson, R. D. Green, Z. A. Hassan, and A. N. Safyurtlu. In *Workshop on Demand Analysis and Policy Evaluation*. International Dairy Federation Bulletin No. 197. 1986.

"The Value of Climate Information," S. R. Johnson and Matthew T. Holt. In *Policy Aspects of Climate Forecasting*, Richard Krasnow, ed. Washington, D.C.: Resources for the Future. 1986.

Presentations

July 1986. "The EC Trade Liberalization and the World Trade in Feed Grain: A Comparison and a Criticism," by Aniss Bahrenian and William H. Meyers, AAEA Annual Meeting, Reno, Nevada.

July 1986. "Exchange Rates, Trade Deficits, and U.S. Prices," by S. Devadoss, William H. Meyers, and S. R. Johnson, AAEA Annual Meeting, Reno, Nevada.

July 1986. "The U.S. Export Response to Price and the Impacts of Trade Liberalization: A Regional Trade Model Analysis," by William H. Meyers, S. Devadoss, and Michael Helmar, Post AAEA Conference Workshop on Modeling for Analysis of International Trade, Reno, Nevada.

July 1986. "Incorporation of Fixed-Flexible Exchange Rates in Econometric Trade Models: A Grafted Polynomial Approach," by Zong-Shin Liu, S. Devadoss, and William H. Meyers, AAEA Annual Meeting, Reno, Nevada.

July 1986. "Discussion: Doable General Equilibrium Models," by S. R. Johnson, AAEA Annual Meeting, Reno, Nevada.

July 1986. "The Food Security Act of 1985: A Ten-Year Perspective," by S. R. Johnson, Agriculture Canada Economics Branch, Ottawa, Ontario.

July 1986. "Measuring Foreign Supply Response to Changes in U.S. Prices: An Argentine Example," by Patrick C. Westhoff, AAEA Annual Meeting, Reno, Nevada.

July 1986. "Dairy Policy: An Analysis of the U.S. Dairy Industry Through 1995," by David R. Krog and Satheesh V. Aradhyula, AAEA Annual Meeting, Reno, Nevada.

July 1986. "Exchange Rates, Trade Deficits, and U.S. Prices," by S. Devadoss, William H. Meyers, and Stanley R. Johnson, AAEA Annual Meeting, Reno, Nevada.

July 1986. "Soybean Import Demand in Taiwan: Economic Growth and Policy Impacts," Rhung-Jieh Woo, Peter H. Calkins, and William H. Meyers, AAEA Annual Meeting, Reno, Nevada.

July 1986. "The U.S. Export Response to Price and the Impacts of Trade Liberalization: A Regional Trade Model Analysis," by William H. Meyers, S. Devadoss, and Michael Helmar, Post Conference Workshop on Modeling for Analysis of International Trade, AAEA Annual Meeting, Reno, Nevada.

August 1986. "U.S. Feed Grains Council World Feed Grains Model: Progress Report #2, by John Urbanchuk and Patrick C. Westhoff, Meeting of the U.S. Feed Grains Council, Minneapolis, Minnesota.

August 1986. "Supply dynamics in the U.S. Hog Industry," by Matthew T. Holt and S. R. Johnson, AAEA Annual Meeting, Reno, Nevada.

October 1986. "Assessment of Prospects for U.S. Agricultural Exports," by S. R. Johnson, BIFAD/USAID Seminar Series on U.S. Agriculture and Assistance to Developing Countries: What is the Connection? Washington, D.C.

October 1986. "International Implications of New Agricultural Technology: Comment," by William H. Meyers, National Conference on New Technology in Agriculture, National Planning Association, Des Moines, Iowa.

October 1986. "Overview: Midwestern Use of Pesticides and Changing Agricultural Needs," by S. R. Johnson, Conference on Pesticides and Groundwater: A Health Concern for the Midwest, Freshwater Foundation, U.S. Environmental Protection Agency, etc., St. Paul, Minnesota.

October 1986. "Structural Change in Meat Demand: The End of the 'Chicken Little' Era," by S. R. Johnson, Symposium on "The Demand for Red Meat: What Do We Know? What Does It Mean?" Southern Regional Research Committee (S-165) and the Board on Agriculture of the National Research Council, Charleston, South Carolina.

October 1986. "1985 Farm Bill and the Structure of U.S. Agriculture," by S. R. Johnson, Agricultural Economics Association of Georgia 1986 Annual Meeting: The Changing Resource Mix in Agriculture, Athens, Georgia.

October 1986. "Tariffs Versus Quotas Under Uncertainty: Restricting Imports and the Role of Preference," by Harvey H. Lapan and E. Kwan Choi, Midwest International Economic Group Conference, University of Pittsburgh, Pittsburgh, Pennsylvania.

December 1986. "The Food Security Act of 1985 One Year Later: Implications and Persistent Problems," by S. R. Johnson and William H. Meyers, Commodity Roundtable Meeting, American Soybean Association, St. Louis, Missouri.

December 1986. "Mandatory Supply Controls and Trade Implications for the United States," by William H. Meyers, Annual Meetings of the International Agricultural Trade Research Consortium, Mexico City, Mexico.

December 1986. "The Farm Economies of the Plaines," discussion by William H. Meyers, Allied Social Science Annual Meeting, New Orleans, Louisana.

January 1987. "Midwestern Use of Pesticides and Our Changing Agriculture," by S. R. Johnson, Illinois Fertilizer and Chemical Association Convention and Trade Show, Springfield, Illinois.

January 1987. "U.S. Agricultural Policy Options and the 1985 Farm Bill," by S. R. Johnson, Senior Management, Agriculture Canada, Ottawa, Canada.

January 1987. "Reducing Disharmonies in the U.S. Crops and Dairy Sectors," by William H. Meyers, Commission of the EC, Brussels, Belgium.

January 1987. "Trade Implications of the Food Security Act of 1985," by S. R. Johnson, Economics Branch, Agriculture Canada, Ottawa, Canada.

January 1987. "Agriculture: Preparing for the Future," by S. R. Johnson, Iowa State University Extension Service and Minnesota Extension Service, University of Minnesota, Albert Lea, Minnesota.

January 5, 1987. Poster paper by Paul Rosenberry, International Conference on Infiltration-Development and Application at Water Resource Research Center, Hawaii.

February 1987. "Uncertainty and Advertising," by Helen H. Jensen, Annual Meeting of the Missouri Valley Economics Association, Kansas City, Missouri.

February 1987. "Midcourse Corrections on Agricultural Policy," by William H. Meyers, Teleconference from Iowa State University, Ames, Iowa.

February 1987. "Future Challenges for Agricultural Export Marketing," by William H. Meyers, Midwest Association of State Department of Agriculture, St. Louis, Missouri.

February 1987. "Background Linkages of Agriculture to the Macroeconomy," by S. Devadoss and William H. Meyers, Annual Meeting of Southern Agricultural Economics Association, Nashville, Tennessee.

February 1987. "Discriminating Among Rational Expectations Models with Non-Nested Hypothesis Testing: An Application to the Beef Industry," by Satheesh V. Aradhyula and Stanley R. Johnson, Annual Meetings of the Southern Agricultural Economics Association, Nashville, Tennessee.

February 1987. Poster paper by Paul Rosenberry, National Convention of Soil Conservation Districts in Reno, Nevada.

February 1987. "National and International Economic Considerations," by S. R. Johnson, Sustainable Agriculture Farming Systems: A Conference Exploring the Impacts on Farm Profitability and the Environment, University of Wisconsin-Stevens Point.

February 1987. "The Food Security Act of 1985: Implications for the Farming Sector," by S. R. Johnson, American Association for the Advancement of Science Annual Meeting, Chicago, Illinois.

February 1987. "Comparative Analysis of Selected Policy Options for U.S. Agriculture," by S. R. Johnson, Congressional Policy Briefing by Resources for the Future and FAPRI, Washington, D.C.

February 1987. "Domestic U.S. Agriculture Trade: Long-Term Perspective"; "The 1985 Farm Bill: Goals, Results, and Consequences for Development Assistance"; "Strategies for Development Assistance and Indicators of Performance," by S. R. Johnson, AID's Bureau for Asia and Near East, Bangkok, Thailand.

March 1987. "U.S. Feed Grains Council World Feed Grains Demand Model: First Forecast," by William H. Meyers and Patrick C. Westhoff, Meeting of the U.S. Feed Grains Council, San Antonio, Texas.

March 1987. Poster paper by Paul Rosenberry, Joint Iowa-Minnesota ASSWC Meeting, Albert Lea, Minnesota.

March 1987. "Comparative Analysis of Selected Policy Options for U.S. Agriculture", by William H. Meyers, National Association of Wheat Growers, Washington, D.C.

March 1987. "Comparative Analysis of Selected Policy Options for U.S. Agriculture," by William H. Meyers, Organization for Economic Cooperation and Development, Paris, France.

March 1987. "Methodology for Predicting Nutrient Intake," by S. R. Johnson, Federation of American Societies for Experimental Biology Annual Meeting, Washington, D.C.

March 1987. "Evaluation of Crop and Fertilizer Price Policies in Indonesia," by William H. Meyers, Ministry of Agriculture, Jakarta, Indonesia.

March 1987. "World Market Impacts of Selected Policy Options for U.S. Agriculture," by S. R. Johnson and William H. Meyers, Ministry of Agriculture, Jakarta, Indonesia; USAID Mission, Jakarta.

March 1987. "Commodity Market Prospects and U.S. Agricultural Policy," by William H. Meyers, College of Economics and Management, University of the Philippines, Los Banos, Philippines.

March 1987. "Uncertainty and the Microfoundations of Supply Response: Some Theoretical Considerations and an Empirical Application," by Matthew T. Holt, Department of Agricultural Economics, University of California, Davis, California.

March 1987. "Problems, Issues, and Control Options for Agricultural Chemicals," by S. R. Johnson, Agricultural Chemicals and Ground Water Pollution Control Symposium, Kanasas City, Missouri.

March 1987. "Evaluating Food Policy in Indonesia Using Full Demand Systems;" "Agricultural Trade and U.S. Farm Legislation," by S. R. Johnson, Ministry of Agriculture, Jarkarta, Indonesia.

April 1987. "Forecasting Government Responses to Changing Economic Conditions in Regional Commodity Trade Models," by Karl D. Skold and William H. Meyers, NCR-134 Regional Conference on Applied Commodity Price Analysis, Forecasting, and Market Risk Management, Chicago Mercantile Exchange, Chicago, Illinois.

April 1987. "Risk Behavior and Rational Expectations in the U.S. Broiler Market," by Satheesh V. Aradhyula and Matthew T. Holt, NCR-134 Conference on Commodity Price Analysis Forecasting, and Marketing Risk Management, Chicago Mercantile Exchange, Chicago, Illinois.

April 1987. "Generic Advertising of Food Products Characteristics," by Helen H. Jensen and T. Kesavan, Annual Conference of the American Council on Consumer Interests, Denver, Colorado.

April 2, 1987. Poster paper by Paul Rosenberry, Council of Administration of Clean Water, Atlanta, Georgia.

April 7, 1987. Poster paper by Paul Rosenberry, combined meeting of Winsted Lake Development Council, Minnesota Pollution Control Agency, and Soil Conservation Service at Winsted, Minnesota.

April 9, 1987. Poster paper by Paul Rosenberry, Great Lakes Governors Forestry Council, Minneapolis, Minnesota.

April 10, 1987. "Household Expenditure Surveys in Haiti and Jamaica," by S. R. Johnson and H. H. Jensen, OICD/USDA Rapid Appraisal Seminar, Washington, D.C.

April 1987. "Forecasting Government Responses to Changing Economic Conditions in Regional Commodity Trade Models," by Karl D. Skold and William H. Meyers, NCR-134 Regional Conference on Applied Commodity Price Analysis, Forecasting, and Market Risk Management, Chicago Mercantile Exchange, Chicago, Illinois.

May 1987. "Specific Scales and the Estimation of Food Stamp Program Parameters," by S. R. Johnson, TIMS/ORSA Meetings, New Orleans, Louisiana.

May 1987. Poster paper by Paul Rosenberry, Regional Workshop of SCS, EPA, State Department in Chattanooga, Tennessee.

May 1987. "Medium Term Outlook for Major Commodity Markets," by S. R. Johnson, Agriculture Canada, Ottawa, Canada.

May 1987. "A Supply and Distribution Management System for Key Haitian Food Crops," by S. R. Johnson, Ministry of Finance, Port-au-Prince, Haiti.

May 1987. "U.S. Farm Policy and International Commodity Markets," by S. R. Johnson, USAID Mission, Port-au-Prince, Haiti.

May 1987. "The Role of Government in the Information Market Place," by S. R. Johnson, National Governor's Association Conference, Washington, D.C.

June 1987. "Does the Consumer Benefit from Feasible Price Stability?: The Waugh-Samuelson Debate Revisited," by E. Kwan Choi, University of Iowa, Iowa City, Iowa.

June 1987. Iowa Corn Promotion Board project by S. R. Johnson, Starlite Village Best Western Motel, Ames, Iowa.

June 1987. "Modeling International Agricultural Markets for Policy Analysis," by William H. Meyers, International Symposium on Identification, Modeling, and Simulation, International Association of Science and Technology for Development, Paris, France, and the Institute National de la Recherche Agronomique, Rennes, France.

June 1987. "Competitiveness of the North Central Region in U.S. and World Markets," by S. R. Johnson, 1987 North Central American Society of Agronomy Meeting, Ames, Iowa.

June 1987. "The World and Its Impact on Markets for Iowa Corn," by S. R. Johnson, Iowa Corn Growers Association and Iowa Corn Promotion Board Joint Meeting, West Des Moines, Iowa.